

## Intisari

*Lepidiota stigma* merupakan salah satu hama penting pada tanaman tebu. Penggunaan *Metarhizium anisopliae* sebagai agens pengendali hayati belum banyak dilakukan dan belum diketahui tingkat patogenisitasnya terhadap *Lepidiota stigma*. Tujuan penelitian ini adalah mengetahui patogenisitas *Metarhizium anisopliae* terhadap telur dan larva instar pertama *Lepidiota stigma*. Isolat yang digunakan adalah isolat *Metarhizium anisopliae* koleksi Laboratorium Pengendalian Hayati, Fakultas Pertanian, Universitas Gadjah Mada yang diisolasi dari *Lepidiota stigma* dengan kerapatan konidium  $5,17 \times 10^{10}$  konidium/gram tanah. Pada penelitian ini digunakan metode inokulasi tular dengan tanah. Hasil penelitian menunjukkan bahwa *M. anisopliae* mampu menginfeksi telur dan larva instar pertama *L. stigma*. Semakin tinggi konsentrasi inokulum jamur, maka akan semakin tinggi mortalitas *L. stigma*. Nilai  $LC_{50}$  pada telur *Lepidiota stigma* sebesar  $7,34 \times 10^6$  konidium/gram tanah. Nilai  $LC_{50}$  pada larva *Lepidiota stigma* instar pertama sebesar  $3,98 \times 10^8$  konidium/gram tanah dengan nilai  $LT_{50}$  sebesar 22,39 hari. Hasil penelitian ini menunjukkan *Metarhizium anisopliae* mampu mengendalikan dan layak digunakan sebagai agens pengendali hayati *Lepidiota stigma*.

**Kata kunci:** *Metarhizium anisopliae*, patogenisitas, *Lepidiota stigma*

### *Abstract*

*Lepidiota stigma* is one of the most important pests in sugarcane. The use of *Metarhizium anisopliae* as a biological control agents has not been studied and the pathogenicity level towards *L. stigma* is still unknown. The aim of this study was to determine the pathogenicity of *M. anisopliae* on egg and the first instar larvae of *Lepidiota stigma*. Isolate of *M. anisopliae* was from the collection of Biological Control Laboratory, Faculty of Agriculture, Universitas Gadjah Mada and it was isolated from *L. stigma*. Soil transmission inoculation was applied for the method of this research with conidia density of  $5,17 \times 10^{10}$  conidia/gram soil. The results showed that *M. anisopliae* could infect egg and the first instar of *L. stigma*. The higher concentration of inoculum, the higher the mortality of *L. stigma*.  $LC_{50}$  values of *L. stigma* egg was  $7,34 \times 10^6$  conidia/gram soil.  $LC_{50}$  values at the first instar larvae of *L. stigma* was  $3,98 \times 10^8$  conidia/gram soil with  $LT_{50}$  value of 22,39 days. The result showed that *M. anisopliae* was able to control and could be used as biological control agent for *L. stigma*.

**Keywords:** *Metarhizium anisopliae*, pathogenicity, *Lepidiota stigma*